CALIFORNIA DEPARTMENT OF TRANSPORTATION

District 3

2014/15

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California Department of Transportation
District 3

Snow & Ice Control Plan

Prepared By:

Winston K Hemstalk

Winston K. Hemstalk
Maintenance Manager II

Approval Recommended:

Kris R Kuhl
Acting Deputy District Director
Maintenance and Traffic Operations

Approved:

Amarjeet S. Benipal

Amarjeet S Benipal
District Director

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Caltrans

Mission

Provide a safe, sustainable, integrated and efficient transportation system

to enhance California's economy and livability

Vision

A performance-driven, transparent and accountable organization that values its people, resources and partners, and meets new challenges through leadership, innovation and teamwork

Goals

Safety and Health

Provide a safe transportation system for workers and users, and promote health through active transportation and reduced pollution in communities.

Stewardship and Efficiency

Money counts. Responsibly manage California's transportation-related assets.

Sustainability, Livability and Economy

Make long-lasting, smart mobility decisions that improve the environment, support a vibrant economy, and build communities, not sprawl.

System Performance

Utilize leadership, collaboration and strategic partnerships to develop an integrated transportation system that provides reliable and accessible mobility for travelers.

Organizational Excellence

Be a national leader in delivering quality service through excellent employee performance, public communication, and accountability.

Values

Integrity • Commitment • Teamwork • Innovation

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3.0 SNOW & ICE CONTROL PLAN OVERVIEW

3.1 Introduction

Each District within the California Department of Transportation (Caltrans) is required to develop and implement a Snow and Ice Control Plan. Snow and Ice Control Plans address a variety of winter duties, such as:

Snow removal operations
Drift prevention
Installation and maintenance of snow fences
Snow pole installation and removal
Tire chain fabrication and repair
Maintenance and control of chain control locations
Avalanche control
Operations in environmentally sensitive areas
Proposed levels of service
Chemical usage
Maintenance of accurate records
Snow & Ice Control training for identified personnel
Equipment preparation and maintenance

3.2 Caltrans Maintenance Manual, Chapter R

The purpose of the Caltrans Maintenance Manual is to present general practice and procedures that when followed, will provide for a uniform approach to maintaining the State Highway System. The manual is not designed to establish a legal standard of care. It is published solely for the information and guidance of the employees of Caltrans.

Chapter R deals with the specifics of the Caltrans's Snow & Ice Control Program and covers areas ranging from policy to avalanche control.

3.3 Required Reporting

See Sections 3.3.1 and 3.3.2

3.3.1 Annual Snow & Ice Control Plan

Each district must submit a Snow and Ice Control Plan to the Chief, Division of Maintenance, no later than October 15th of each year.

NOTE: If no changes or revisions are made, a statement should be submitted to verify that no changes have been made, and that the current Snow and Ice Control Plan is still in effect.

3.3.2 Annual Salt and Deicer Usage

At the close of each winter season, no later than August 1st, each district shall reconcile their salt and deicer usage submitted to the Integrated Maintenance Management System (IMMS) for the previous fiscal year. This will reflect the total quantity and placement of salt and other deicers dispersed throughout the State.

3.4 Environmentally Sensitive Areas

The Caltrans Maintenance Manual Vol 1, Chapter R states:

"Snow removal and ice control… shall be done in accordance with the best management practices outlined herein with particular emphasis given to environmentally sensitive areas." Environmentally sensitive areas include vegetation areas and bodies of water receiving direct roadway runoff. These environmental concerns play a major role in the Snow and Ice Control Plans statewide. Usage of all anti-icers, deicers, and abrasives is recorded by each district and reported to Headquarters each year. To enhance the prevention of sediment and non-storm water run-off into our drainage systems and in turn our waterways during the winter months some of the following methods are used:

- In-between storms excess cinders and sediment build up is cleaned up with pick up brooms.

- During and in-between storms channels, ditches, and drainage structures are maintained to help achieve Departmental Best Management Practice (BMP) implementation goals of storm water run-off as free as possible of sediment and non-storm nuisance water runoff.

- Employees are trained and educated in proper departmental Stormwater BMP's through the Department's Stormwater Management Plan and Maintenance Staff Guide, in conjunction with the Department's Maintenance and Safety Manuals.

3.5 Partnerships

Director's Policy DP-06 "Caltrans' Partnerships" instructs Caltrans to develop "productive transportation partnerships with Federal, State and local agencies; and public and private organizations. Partnerships enable the Department and its partners to identify and meet mutual goals, minimize jurisdictional issues, build public confidence, maintain a tradition of professionalism, provide for flexible and timely use of multiple funding sources, and improve program delivery."

The I-80 Winter Coalition has been formed with five states (California, Nevada, Utah, Wyoming, & Nebraska) to help coordinate winter operations including movement of commercial truck traffic and commerce on the I-80 corridor (www.i80coalition.com). Meetings are held in October/November to discuss the upcoming Caltrans snow removal operations. Attendees include CHP, NDOT, NHP, TMA, local law enforcement, ski industry, California Trucking Association (CTA), trucking industry, and local businesses.

3.5.1 California Highway Patrol (CHP)

Caltrans and the California Highway Patrol (CHP) share the responsibility for ensuring the safe and efficient use of the State Highway System. Both departments are dedicated to providing mobility and the highest level of safety, service, and security to the traveling public. This is accomplished, in part, through effective traffic control, incident management, and quick clearance of incidents.

3.5.2 Local Law Enforcement

Depending on the location of the snow & ice areas and/or the severity of the snow & ice conditions, local law enforcement as well as the CHP may partner with Caltrans to ensure the safe and efficient use of the State Highway System.

3.5.3 Non-Governmental Organizations (NGO)

It is very important for Caltrans to maintain partnerships with NGO's, such as the Red Cross. While their services may not be needed every snow & ice season, when they are needed, they are needed quickly.

3.6 Incident Command System (ICS)

The Incident Command System (ICS) is used for on-scene management of emergency incidents or non-emergency events. It can be used for both small and large situations. The system has considerable internal flexibility. It can grow or shrink to meet differing needs. This makes it a very cost-effective and efficient management system.

ICS allows all involved to know their roles and work together, without jeopardizing anyone's voice or authority.

3.6.1 ICS Management and Organization

Every incident or event has certain major management activities or actions that must be performed. Even if the event is very small, and only one or two people are involved, these activities will still always apply to some degree.

The organization of the Incident Command System (ICS) is built around five major management activities:

Command
- Sets objectives and priorities
- Has overall responsibility at the incident or event

Operations
- Conducts Tactical Operations to carry out the plan
- Develops the tactical objectives & organization
- Directs all resources

Planning/Intelligence
- Develops the action plan to accomplish the objectives
- Collects and evaluates information
- Maintains resource status

Logistics
- Provides support to meet incident needs
- Provides resources and all other services needed to support the incident

Finance/Administration
- Monitors costs related to incident
- Provides Accounting, Procurement, Time Recording, and Cost Analyses

These five major activities are the foundation upon which the ICS organization develops. They apply whether you are handling a routine emergency, organizing for a major event, or managing a major response to a disaster.

On small incidents, these major activities may all be managed by one person, the Incident Commander (IC). Large incidents usually require that these activities be set up as separate Sections within the organization.

3.6.2 Incident Commander Responsibilities on the State Highway System

Per the California Department of Transportation (Caltrans) and the California Highway Patrol (CHP) "Incident Management" Joint Policy Statement:

"Under ICS, the highest-ranking CHP official is the on-scene incident commander and their rank varies with the scope of the incident. The incident commander initiates the chain of local, regional, and state-level notifications, including information about road closures, shortly after arriving at an incident."

If CHP is not yet on-scene, the most qualified Caltrans personnel will act as the initial IC. Once CHP is on-scene the IC duties will be transferred to their representative.

3.7 Winter Operations

The winter duties, including preparations, referenced in this plan are commonly referred to as Winter Operations. District specific winter operations are reviewed in the corresponding sections.

3.8 Snow & Ice Level of Service (LOS)

Level of Service is a tool that measures the quality of operations for different roadway types, features, and controls. The Snow & Ice LOS, also known as Winter LOS, is determined by the total percentage of the evaluated snow routes open during storm periods. For the Statewide LOS, this number was weighted by the Average Daily Vehicle Miles Traveled (ADVMT) of all of the evaluated snow routes.

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4.0 DISTRICT 3 WINTER OPERATIONS

4.1 Overview

Caltrans District 3 is responsible for snow removal operations on approximately 1,330 lane miles of highway over ten routes in seven counties. Among these are the heavily used, politically sensitive and historic routes of Interstate 80 over Donner Pass and US 50 over Echo Summit.

Donner Pass, Interstate 80: Interstate 80 is the largest goods movement and tourist corridor in Northern California. Within the District, Interstate-80 has 565 lane miles of travel way that typically receives snow ranging in elevation from 4000 feet to 7239 feet at Donner Pass.

Echo Summit, US 50: US Highway 50 in District 3 has 164 lane miles of travel way that typically receives snow ranging in elevation from 3000 feet to 7382 feet at Echo Summit. Echo Summit is also prone to snow avalanches requiring avalanche control efforts periodically during the winter.

There are an additional 600 lane miles on secondary routes that require snow removal operations that under District 3's canopy of responsibility. There are several Sierra communities within these 600 lane miles where the state highway also doubles as their main street. Removing the snow from these main street areas sometimes requires it to be loaded into trucks and hauled to approved snow storage sites. The District is also responsible for removing snow from several routes within the Lake Tahoe Basin where extraordinary steps are taken by the District to help preserve this environmentally sensitive location.

Mountain weather conditions significantly impact traffic operations, accident frequency, and levels of service, especially during winter season snowstorms. Traffic accidents and snow related road closures periodically curtail traffic movement. Each winter, there are approximately a dozen weekends that experience bad weather conditions. The intensity, timing and duration of Pacific Storm systems continue to baffle even the most seasoned meteorologists. To counter this, (particularly when heavy traffic volumes are anticipated) District 3 goes into a high state of readiness just prior to the earliest ETA of the forecasted storm.

4.2 Personnel/Staffing

District 3's winter staffing during the months of snow removal operations historically has been composed of approximately 650 employees. The 2014/15 winter staffing is projected to be 600 employees, which includes 250 temporary employees. The majority of these positions are Caltrans Equipment Operators and Highway Maintenance Workers who operate the snow removal equipment and perform manned chain control operations.

4.3 Facilities

District 3 has 13 maintenance station facilities located in snow areas that perform snow removal operations. These facilities include three dormitories/kitchens used primarily for those engaged in snow removal efforts. The Whitmore and South Lake Tahoe dormitories each feed and board up to 50 people and the Kingvale dormitory will feed and board up to 150 people. Caltrans and other agencies use the Kingvale dormitory from May through September as a training academy. At this training academy, state employees from all over California are trained in a number of curriculums. All of the facilities have been used in times of emergency for medical treatment and shelter during snowstorms and forest fires.

4.4 Communications

The Regional Transportation Management Center (RTMC) in Sacramento and the Kingvale Snow Communications Center (KSCC) located at the Kingvale Maintenance Station are staffed around the clock during the winter months. The Kingvale Center handles all maintenance dispatch and traffic operation functions for Interstate 80, the North Tahoe Basin, and the secondary snow routes within the Sutter Sierra Region. The Sacramento RTMC handles calls for US 50 and the remainder of the District. Updates from the field will be relayed to the Transportation Management Centers and then be forwarded to Headquarters Dispatch for distribution as required. Numerous Changeable Message Signs (CMS) and Highway Advisory Radio's (HAR's) are located along Interstate 80, US 50, and in the Tahoe Basin snow corridors.

4.4.1 Highway Advisory Radio (HAR)

Caltrans operates 13 Highway Advisory Radios (HAR) along I-80 which broadcast on AM 1610. These are located at Antelope, Newcastle, Clipper Gap, Colfax, Gold Run, Whitmore, Cisco, Kingvale, Donner Summit, Truckee, Tahoe City, Floriston and Boomtown in the State of Nevada. Six more locations are on SR-50 at Bradshaw, Placerville, Camino, Twin Bridges, Myers, and Rufus Allen St.

4.5 Snow Removal & Ice Control Equipment

The District 3 Maintenance mobile fleet is comprised of approximately 872 on-highway and off highway vehicles and equipment. Approximately 355 of these units representing approx. 41% of that fleet are utilized for the District's snow removal operation. The District Equipment Shop has a winter preparedness plan to have the snow removal equipment ready for service and in place at the assigned maintenance stations by the end of November. Field mechanic sub-shops are located at Nevada City, Whitmore, Kingvale, Truckee, and South Lake Tahoe

4.5.1 Support Vehicles

The following is a breakdown of the vehicles used for winter operations. The numbers of equipment can vary due to major break down, replacements and reassignments. Support vehicles range from pickups, vans, SUV's, campers, and forklifts.

Snow yard support – 100 vehicles Valley support – 40 vehicles

4.5.2 Plow truck

39 Plow trucks in District 3

4.5.3 Plow/sander truck

71 Plow/sander units in District 3

4.5.4 Loader

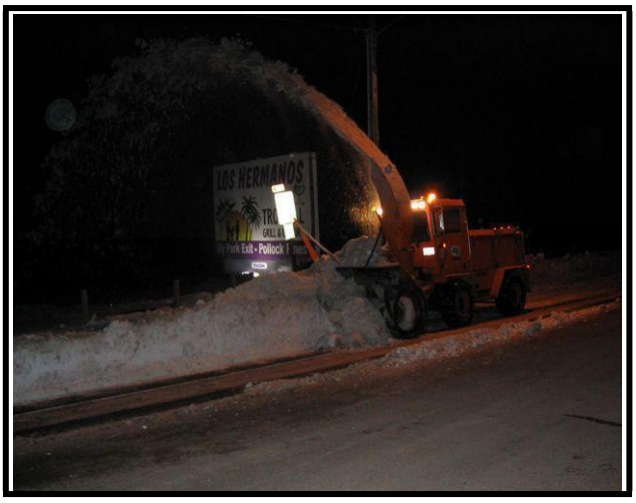
26 Loaders in District 3

4.5.5 Motor Grader

44 Motor graders in District 3

4.5.6 Rotary Snow Plow

35 Rotary plows in District 3



4.5.7 Tow Truck

Caltrans operates two four wheel-drive tow trucks, which patrol during storms to assist in clearing the roadway when motorist have problems. The Caltrans tow trucks will tow vehicles out of narrow situations to a safe location. Caltrans tow trucks are implemented to insure speedy remedy or removal of vehicles that block the travel way.

4.5.8 Traffic Management Truck (TMT Truck)

TMT units are used during storm periods on Interstate 80 between Truckee and Auburn.

4.5.9 Fuel Truck

The District fuel truck is stationed at Kingvale Maintenance Station located on I-80.

4.5.10 Pusher Truck

D3 has two pusher trucks that are radio equipped and patrol the I-80 summit to assist any trucks having trouble making it over the summit. The big rig pusher trucks are used to remove big rigs and vehicles that are blocking the roadway.

4.6 Preventive Maintenance of Snow Removal & Ice Control Equipment

Preventive maintenance of snow removal & ice control equipment is mandatory for safety, efficiency, and legality. Pre-op and post-op inspections are mandated by Caltrans Policy, the California Code of Regulations Section 1215 (a-f) and the Code of Federal Regulations Sections 396.11 and 396.13.

It is the Operator's responsibility to complete the pre-op and post-op inspections and report any findings, in writing, to the mechanics through the Operator's supervisor.

Examples of Pre-op and Post-op Inspections:

Sander – grates, conveyor belt, spinner, lubrication
Plow – blades, moldboard, safety chains, bolts, rams
Chock Blocks – available and in good condition
Safety chains – proper adjustment
Hydraulic lines - tight, leaks
Documentation - pre-op book and PERM book
Services - check lube chart
Minor Repairs - wipers, lights
Lubrication – zerts, sander and plow
Adjustments - sander chain, plow safety chains for tension/position

4.7 Anti-Icers, Deicers, and Abrasives

Motorist and personnel safety frequently necessitates the use of anti-icers, deicers, and abrasives to assist in providing a more negotiable travel way and prevent major slowing of traffic flows within the snow and ice removal areas. The use of anti-icers, deicers, and abrasives should always be used prudently and judiciously and not distributed unnecessarily.

4.7.1 Anti-Icers

The primary anti-icer/deicers currently used in District 3 are salt, Ice-Slicer, or salt brine.

4.7.2 Deicers

The primary anti-icer/deicers currently used in District 3 are salt, Ice-Slicer, or salt brine.

4.7.3 Abrasives

The primary abrasive used in District 3 is sand.

4.7.4 Brine

Caltrans District 3 is responsible for snow removal operations on approximately 1,330 lane miles of highway over 10 routes and seven counties. Snow and ice control is one of the District's most costly operations. To control rising material and labor costs, one measure maintenance staff is implementing is the use of anti-icing techniques.

Application of salt brine prevents ice from bonding to the travel way and results in easier removal by mechanical methods. The most cost effective pre-wetting and liquid solutions can be made by mixing sodium chloride (salt) and water to form salt brine, which is produced at several District 3 Maintenance stations.

Using the existing mobile fleet with minor modifications, crews apply salt brine to the travel way prior to storm conditions. The process is called pre-wetting. This, along with pre-wetting of dry sand, are new techniques that have proven to be economical. Pre-wetting of dry sand with salt brine rather than only using sand is more effective than using traffic to crush and move the material on the travel way to begin the melting/deicing process. Pre-wetted materials begin dissolving snowpack and ice faster than dry materials.

Brine is typically applied to the travel way by means of tanker trucks at a rate of 50 gallons per lane mile. When salt is applied, its rate is 200 lbs. to 500 lbs. per lane mile. For instance, a 10 lane/mile section of road, the salt applied would be least 200 lbs. x 10 = 2,000 lbs or 1 ton. Salt Brine applied would be 50 gallons x 10 = 500 gallons (1,000 gallons of Salt Brine equals 1 ton of salt).

The quantity of materials can be reduced when pre-wetted, since less material leaves the roadway during spreading. That translates into less sand on the travel way, saving time and costs through less sweeping, drain cleaning and other maintenance work.

Brining Truck (left), Brine Machine (right)

4.8 Chain Controls

The following chain control classifications are implemented as determined necessary by the District or Field Maintenance Staff, to ensure the safe travel of the motoring public during storms. The use of these chain control classifications or combination of classifications will vary from route to route and storm to storm.

Speed limits may be set at 40, 35, 30, or 25 miles per hour in chain control areas according to prevailing conditions as outlined in the Section 22363 of the California Vehicle Code.

Caltrans does not sell nor recommend specific brands of tire chains. Vehicle owners should check the vehicle manufacturer's specifications for use of tire chains/traction devices.

4.8.1 R1a

Chains are required on the drive axle for single axle vehicles with trailers.

NOTE: This chain control is rarely used. Most highways do not allow travel during adverse weather conditions that necessitate this chain control requirement.

4.8.2 R1

Chains, traction devices or snow-tread tires are required on the drive axle of all vehicles except four wheel/all wheel drive vehicles.

4.8.3 R2

Chains or traction devices are required on all vehicles except four wheel/all wheel drive vehicles with snow-tread tires on all four wheels.

NOTE: Four wheel/all wheel drive vehicles must carry traction devices in chain control areas.

NOTE: Chains or traction devices are required on four wheel/all wheel drive vehicles over 6,500 unladen.

4.8.4 R3

Chains or traction devices are required on all vehicles, no exceptions.

4.8.5 Snow-Tread Tires

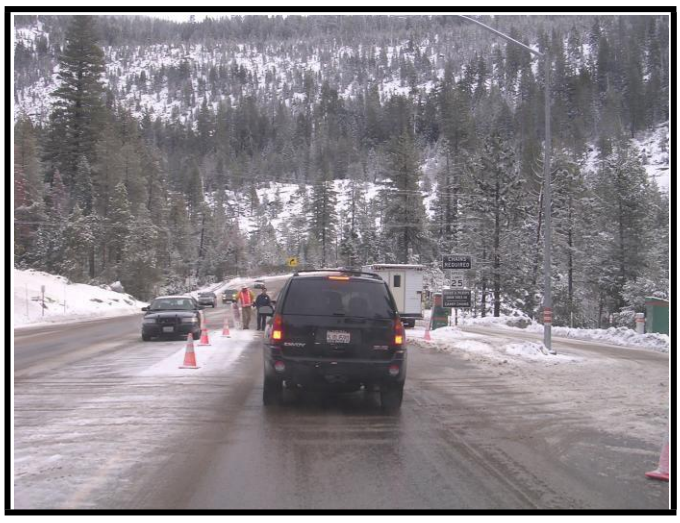
The California Vehicle Code Section 558 defines a snow-tread tire as follows, "A 'Snow-tread tire' is a tire which has a relatively deep and aggressive tread pattern (6/32 minimum) compared with conventional passenger tread pattern. Snow-tread tires can be identified by examining the sidewall of the tire where the letters MS, M/S, M+S or the words MUD AND SNOW have been stamped into the sidewall."

4.8.6 Tire Traction Devices

The California Vehicle Code Section 605 defines tire traction devices as follows: "Tire Traction Devices are devices or mechanisms having a composition and design capable of improving vehicle traction, braking and cornering ability upon snow or ice-covered surfaces. Tire traction devices shall be constructed and assembled to provide sufficient structural integrity and to prevent accidental detachment from vehicles. Tire traction devices shall, at the time of manufacture or final assembly, bear a permanent impression indicating the name, initials or trademark of the assembling company or primary manufacturer, and the country in which the devices were manufactured or assembled in final form."

4.8.7 Signage

When chain controls are established, signs will be posted along the roadway indicating the type of requirement and designating the start and end of the chain control area.



4.9 Chain Installers

District 3 issued 117 encroachment permits for the 2013/14 winter season to individuals desiring to install or remove tire chains for a fee on vehicles along the district's snow routes.

The installer's are required to display a sign 12" x 24" up to 18"x 36" - 4" high letters only...advising motorists in advance of their fee for providing their services. Failure to display their sign to the traveling public is in violation of their permit.

This year's rate is $30.00 to install auto chains and $15.00 to remove them. Truck rate is $20.00 per wheel to install truck chains and $10.00 per wheel to remove them. Chain installers are not allowed to sell or rent any traction devices.

4.10 Snow Road Classifications

Snow and ice control are necessary to provide as safe a travel way as possible and will balance traffic demands, amount of traveler delay, and environmental impacts. It is expected that R-1 and R-2 chain controls will need to be used on some routes. All roadway segments subject to snow and ice conditions will be designated with a Snow Road Classification "A", "B", "C", "D", or "E."

4.10.1 Snow Road Classification "A"

Snow will be removed continuously during a storm to keep the road open for traffic except when poor visibility or avalanche hazard exists. Chain requirements will be lifted and the roadway returned to bare pavement as soon as possible. Patrols will be established for those areas where conditions require surveillance of the roadway for possible snow, ice or avalanche hazards. Anti-icers, deicers, or abrasives, or a combination of materials should be applied to enhance traffic safety as deemed necessary by the supervisor on duty.

4.10.2 Snow Road Classification "B"

This level is the same as "A" above, except that, chain requirements will be lifted and bare pavement achieved within 48 hours after the end of the storm.

4.10.3 Snow Road Classification "C"

At this level, only enough snow should be removed during the storm to keep the road open and safe for traffic. Around the clock shifts may be necessary to accomplish this. Patrols will be established for those areas where conditions require surveillance of the roadway for possible snow, ice or avalanche hazards. Anti-icers, deicers, or abrasives, or a combination of materials should be applied to enhance traffic safety as deemed necessary by the supervisor on duty.

4.10.4 Snow Road Classification "D"

Snow should be removed only during normal daytime work shifts, except that some routes may be plowed at any time when the District Director determines there is sufficient reason for plowing. Some routes may be allowed to close temporarily during moderate to heavy storms when the District Director determines this to be the appropriate course of action. Once open, anti-icers, deicers, or abrasives, or a combination of both should be applied to enhance traffic safety as deemed necessary by the supervisor on duty.

4.10.5 Snow Road Classification "E"

These routes are allowed to close during the winter, and are reopened in the spring when it is reasonable to assume the storm possibilities are over.

4.11 Corridor Concept

Snow and Ice Control Plans need to ensure the same level of operations on roadways that are shared between Districts, (e.g. Operation Snowflake). Districts must work together to ensure the safety of Caltrans personnel and the traveling public. For example, Butte 70 is split for winter operations at the 191 jct. between the District 3 Chico Maintenance Crew and the District 2 Pulga Maintenance Crew.

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5.0 DISTRICT WINTER OPERATIONS PREPARATION

5.1 Overview

An effective winter snow removal program requires a year round effort. It is important that during the summer and fall months preparations are made for the upcoming winter season to ensure that necessary resources are in place when the snow starts to fall.

5.2 Personnel/Staffing

August
The region and district staff should be working on staffing plans for the upcoming winter and identify as many known snow removal employee vacancies as possible.

September
The following inquiries sent and returned to the region staff to solidify the winter vacancy numbers.

1. Intent to return to work letter to eligible temporary employees
2. Winter Post and Bid offers to Unit 12 Rank and File
3. Temporary Winter Upgrades Identified
4. Storms only volunteer list to permanent full time employees

October
The regions should advertise, conduct interviews and make appointments to fill identified vacancies, keeping in mind that there is an approximate 1-month lag period from the selection process to having the new employee report to work.

Returning temporary employees should be notified of their estimated return to work date and checked for availability to respond in the case of early fall storms.

November/December
Temporary employees should be called to work as needed.

New employees should report and start receiving necessary mandatory trainings, localized training, and relevant equipment training and qualification.

All returning employees should receive applicable refresher and mandated trainings. They also need to have their driver's license and medical cards checked to ensure they are current and the proper class for their position.

5.2.1 Snow & Ice Training

Safety First! All operators must be qualified on each piece of equipment they operate through the Equipment Qualification Program administered by the Maintenance Equipment Training Academy (META). Please see *Appendix C: 2006 Equipment Qualification Program Update Memorandum* for more information.

All District 3 employees involved with snow removal and ice control operations will spread anti-icers, deicers or deicer/abrasive combinations at the instruction of the on-duty supervisor. Each employee will be properly trained on how, when, and where the different types of deicers and abrasives are utilized in their areas of responsibility. Additionally, employees will also be properly trained on the equipment used in anti-icing, deicing and sanding operations and will be familiar with the required documentation pertinent to deicer/abrasive use. Daily sand logs shall be completed by end of shift.

5.2.1a Snow Removal Operations Safety and Preventive Maintenance

This job required course provides snow removal personnel with information regarding their responsibilities related to safe operation and preventive maintenance of snow removal equipment, including plow trucks, sanders, graders, loaders, rotary snow plows, etc. Emphasis is on safe practices and shift change inspection and lubrication responsibilities. Yard walk-around demonstrations are included with emphasis on ground -oriented spreaders.

Some of the snow equipment operating tips discussed are:

> Inspect all cutting edges and tire chains during pre-op, and during shift.
> Caltrans chain requirements apply to all Caltrans equipment. We are not exempt. Excuses for excessive speed, lack of pre-op, and no lubrication, do not erase operator's responsibility.
> Do a walk around inspection before backing from a parked position. Someone may be parked behind you. Cars like to follow plow trucks. Reduced visibility in snowy conditions compounds the problem.

5.2.1b Snow Removal Equipment Refresher

This job required course reviews in 8 hours the same material covered in detail in the 16-hour class for Snow Removal Preventive Maintenance (100427). Designed as a refresher for both permanent full time and permanent intermittent employees. Emphasis is on operator's responsibilities for the inspection, testing, and operation of snow removal equipment (plows, sanders, graders, and rotary plows). Safe practices, shift change inspection, and lubrication requirements are stressed.

5.2.1c Avalanche Control

Maintenance personnel who are involved in the task of avalanche control shall be trained in the hazards of snow avalanche control. This would include avalanche control operations personnel involved in the removal of snow and traffic control in designated avalanche control areas. This training is mandated pursuant to departmental policy and the California Division of Occupations Safety and Health (Cal/OSHA) General Industrial Safety Order (GISO) Section 5239.

5.2.1d Blasting Safety

All personnel who handle or transport detonators or explosives shall be trained in the hazards of the job and safe performance of their duties. This course covers the safe use and handling of explosives and the mechanics of detonation. The first half of the course is classroom training and the second half being "hands on" training using explosives in the field. Trainees shall be under the direct supervision of a licensed blaster General Industry Safety Orders (GISO) Section 5239. This training is mandated pursuant to Departmental Policy and GISO Section 5239.

NOTE: All new blasters are required to attend this course prior to licensing.

5.2.1e Blasting Safety Refresher – Rock and Stump

This mandated refresher course provides training in the safe use and handling of explosives and the mechanics of detonation. Half of the course is in the classroom and half is "hands on" training with explosives in the field. This training is mandated pursuant to departmental policy, and GISO §5239.

NOTE: All Caltrans licensed blasters who have attended the Basic Blasting Safety Course shall attend this refresher course each year to maintain Caltrans Blaster Certification.

5.2.1f Blasting Safety Refresher – Avalanche Control

This mandated refresher course provides training in the safe use and handling of explosives and the mechanics of detonation. Half of the course is in the classroom and half is "hands on" training with explosives in the field. This training is mandated pursuant to Departmental Policy and GISO Section 5239.

NOTE: All Caltrans licensed blasters who have attended the Basic Blasting Safety Course shall attend this refresher course each year to maintain Caltrans Blaster Certification.

5.3 Facilities

Maintenance Stations

Spring
Any deficiencies and repairs that need to be accomplished during summer or fall months should be identified and submitted to the maintenance mechanic for scheduling.

Summer/Fall
Maintenance supervisors should perform maintenance work within their means to the facility, driveway and parking lot. Facility drainage facilities should be cleaned and repaired, and proper storm water BMPs reinstalled. Maintenance facilities that receive snow should install snow poles around the facility and along the driveway to assist with snow removal efforts. Snow poles also need to be installed at critical locations around the facility to mark hazards and station features that need protection from snow removal equipment or may need to be re-located during snow receiving months.

Dormitory/Kitchens

Spring
Facilities that close for the summer should be properly prepared for the summer hiatus by being thoroughly cleaned and secured. The supervising cook or delegated representative should perform a walkthrough of the facility with the maintenance mechanic and identify and document any items that need repair while the facility is off line.

Summer
The supervising cook needs to work with the area superintendent and region office staff to determine any staffing vacancies and their replacements. They also need to ensure food and linen purchase orders and contracts are being created and will be in place by October.

Staffing
In the spring to fall months the Kingvale dorm is open for training classes. One supervising and one P.I. assistant cook prepare meals. During large classes an additional P.I. cook can be brought in. The Whitmore dorm is closed during this time. During winter months, the Kingvale dorm employs one supervising and five P.I. cooks as well as one P.I. custodian and the Whitmore dorm employs one supervising and 3 P.I. cooks.

5.4 Communications

Kingvale Snow Communication Center

The Kingvale Snow Communications Center (KSCC), located at the Kingvale Maintenance Station, coordinates all snow operations along the I-80 corridor and the secondary snow routes within the Sutter/Sierra Region. The Kingvale Communications Center is in operation during the winter months only and is staffed with six dispatchers and one dispatch supervisor. The KSCC coordinates all radio traffic in the mountain areas maintained by the Sutter/Sierra Region as well as controls the many Changeable Message Signs (CMS) and Highway Advisory Radios (HAR) that advise motorists of the latest conditions on I-80.

Staffing: Dispatch supervisor: 1 Dispatchers: 6

5.5 Snow Removal & Ice Control Equipment

Equipment

The District's inventory of equipment used in snow operations number approximately 355 units. A large number of these are frequently in a state of relocation or reconfiguration in an effort to maximize utilization. Superintendents and supervisors need to work through the District Equipment Coordinator's office with any equipment changes.

May
Any snow equipment requiring major work beyond the capabilities of the field mechanics or local sub shops are identified and delivered to either the District 3 shop or designated vendor for repairs during the summer and fall.

Identified plow/sanders should have their sanders removed and dump beds installed to make them available for summer hauling.

Plows and other snow attachments removed from equipment for the summer should be properly mothballed until reinstalled.

September
Superintendents and supervisors need to start inventorying their snow equipment and its status. They should start working with the Equipment Coordinator on scheduling bed changes, back to sanding units and for the return of equipment that was loaned to other cost centers for the summer months or that was hauled away for summer repairs. Equipment that was loaned to other cost centers for the summer also need to be thoroughly pre-oped and any identified repairs accomplished before it is returned.

October
Superintendents and supervisors should follow up with the District Equipment Coordinator to ensure that arrangements made in September are on track and that their areas snow equipment will be in service by the November timeline.

November/December
Snow removal equipment should be in place and ready for winter.

5.6 Anti-icers, Deicers, and Abrasives

Anti-icers, Deicers and Abrasives

Motorist and employee safety frequently necessitate the use of deicers and abrasives to assist in providing a more negotiable travel way and prevent major slowing of traffic flows within the snow removal areas. The use of deicers and abrasives should always be used prudently and judiciously and not distributed unnecessarily. The primary anti-icer/ deicer currently used in District 3 is salt and the primary abrasive is sand. The district is constantly pursuing alternative products in an effort to reduce the use of salt and abrasives while still providing a comparable level of safety and service.

Field supervisors are given the authority to authorize the application of anti-icers, deicers and abrasives by plow/sanders and/or distributor trucks within each territory. This responsibility is usually delegated to the route segment Leadworkers. In locations where one territory leads to another on the same route, communication between the territories must be made prior to the application. Miscommunication or failure to communicate could directly impact the routes overall "storm strategy" and cause unnecessary traffic delays or chain use.

Equipment used in snow and ice control need to have their spreading units calibrated prior to use at the beginning of winter and recalibrated bimonthly as weather permits or whenever the spreading units receive mechanical repairs that affect calibration.

All employees involved with snow removal and ice control operations will spread anti-icers, deicers or deicer/abrasive combinations at instruction of the on duty supervision. Employees will be properly trained on how when and where the different types of deicers and abrasives are utilized in their areas of responsibility. Additionally, employees will also be properly trained on the equipment used in anti icing, deicing and sanding operations and will be familiar with the required documentation pertinent deicer/abrasive use. Daily sand logs shall be completed by end of shift. The Monthly Deicer Usage Report will continue to be required.

The decision that abrasives and deicers will be mixed at stockpile locations to prevent freezing will be done on a region basis, as the need exists. Deicer/abrasive mixtures will be used throughout the snow removal/ice control area on an as needed basis to provide a safe travel way. When applying bond breaker deicer applications, they will be applied at the beginning of a storm regardless of temperature.

During sanding operations using a tailgate sander with the truck bed raised, operators must be alert to overhead structures or hazards. Truck beds when fully raised are approximately 17 feet.

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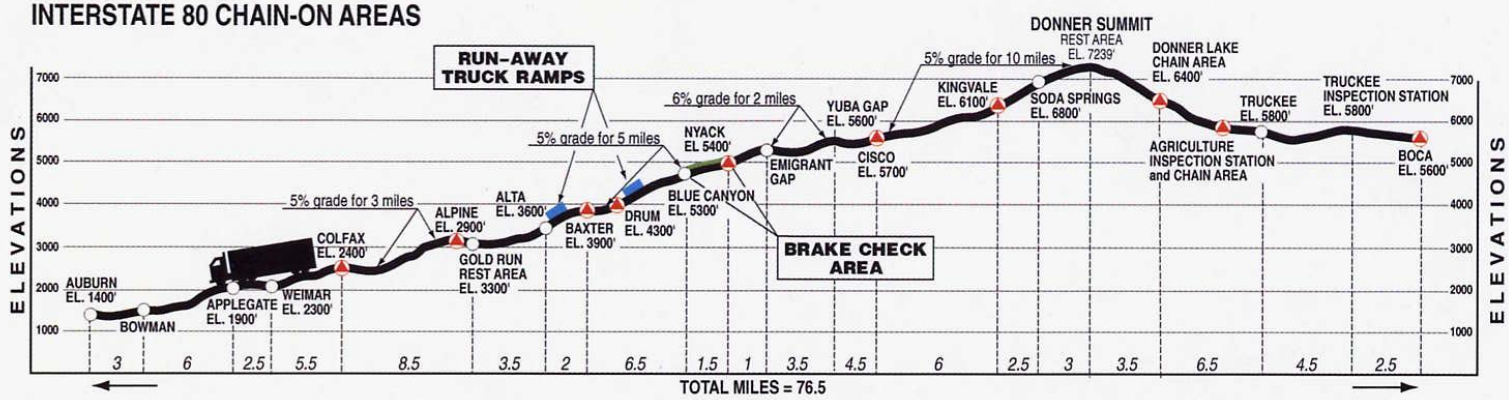
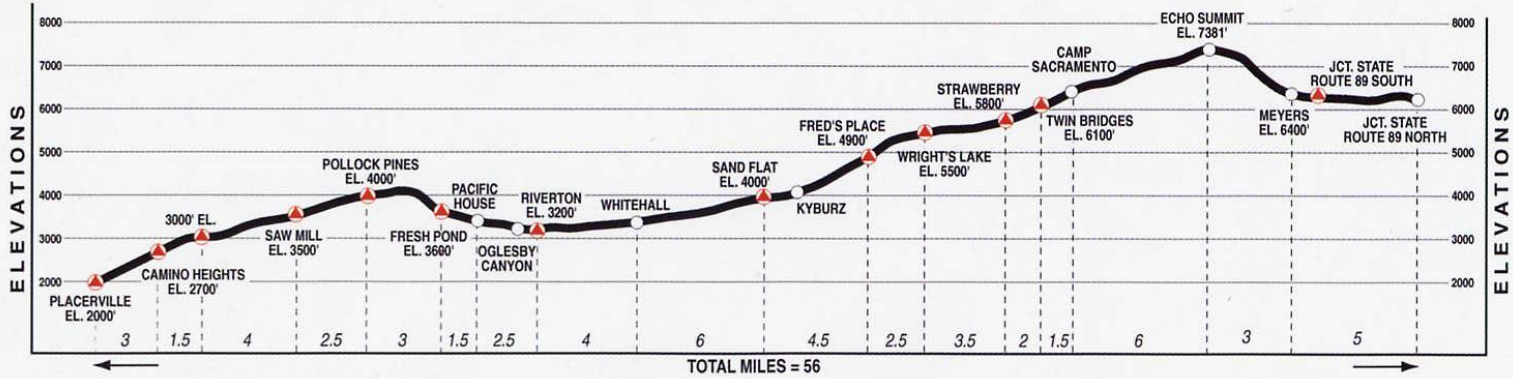
INTERSTATE 80 CHAIN-ON AREAS



US ROUTE 50 CHAIN-ON AREAS



LEGEND
- ○ TOWN/COMMUNITY
- ▲ CHAIN-ON AREAS

6.0 SUTTER SIERRA REGION

6.1 Overview

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Sutter Sierra Region Overview

The Sutter/Sierra Region consists of four maintenance areas. Two of these areas, Donner Pass and Gold Country, have the primary snow removal responsibilities in the region. The Donner Pass Maintenance Area is responsible for the Interstate 80 corridor and the Gold Country Area is responsible for the majority of the secondary routes in the region. The remaining two areas in the region support the snow areas by supplying resources during storm events. The amount of resources sent by the non snow areas to assist with snow removal operations is determined by the prediction of both the size of the storm event and the lowest elevation that snow is expected to fall. A large snowstorm that falls at a low elevation requires the services of approximately 400 employees.

Donner Pass Maintenance Area consists of Auburn, Whitmore, Kingvale, and Truckee East crews.
Gold Country Maintenance Area consists of Nevada City, Downieville, Sierraville, Truckee North, and Tahoe City crews.
North Valley Maintenance Area consists of Chico North, Chico South, Marysville, Marysville L/S, Colusa, and Willows crews.
Special Crews Maintenance Area consists of Stencil, Stripe, Tree & Spray, Sign, Bridge, Storm Water, Statewide Thermoplastic, and Statewide Bridge Inspection Crews.

6.2 Sutter/Sierra Region Route Priorities

The following is a prioritized list of the snow routes in the Sutter/Sierra Region, with the number 1 being the highest priority route. In the event that reductions in snow removal services may become necessary, the lower priority routes will receive the reductions first in an effort to maintain the service on the higher priority routes.

1. Interstate 80
2. SR 89 south of Truckee
3. SR 28
4. SR 20 east of Washington Jct.
5. SR 89 south of Tahoma
6. SR 267 south of Northstar
7. SR 32 east of Chico
8. SR 89 north of Truckee
9. SR 49 north of Nevada City
10. SR 70 to District 2

6.3 Donner Pass Maintenance Area

The Donner Pass Area snow removal operation is responsible for clearing a 90-mile long section of Interstate 80, from the town of Newcastle to the California/Nevada State Line. There are approximately 45 permanent employees assigned to the Donner Pass Area. During major storms, this number increases to over 200 workers, which include temporary, intermittent, and borrowed employees from other Caltrans Districts. The Donner Pass snow removal effort is based out of four Caltrans Maintenance Stations – Auburn, Whitmore, Kingvale, and Truckee.

6.3.1 Auburn Maintenance Station

The Auburn Maintenance Station is situated along Highway 49 in Auburn at an elevation of 1400-ft. This station primarily plays a support role for all but the lowest snowstorms. The Auburn crew takes care of I-80 between Newcastle and Gold Run and also performs truck screening operations.

6.3.1a Personnel/Staffing

The maintenance station is home to a road crew, landscape crew and electrical crew, along with a shop mechanic. During the winter months these are the number of employees on duty.

Regular shifts – 8 Average storm shifts - 18 Max storm shifts - 20

6.3.1b Facilities

The Auburn facility includes an equipment barn that houses an equipment shop and mechanic, along with a separate office/crew room.

6.3.1c Communications

The Kingvale Snow Communications Center (KSCC), located at the Kingvale Maintenance Station, coordinates all snow operations along the I-80 corridor and the secondary snow routes within the Sutter/Sierra Region. During the periods when the KSCC is not in operation, the Regional Transportation Management Center (RTMC) assumes their responsibilities.

6.3.1d Snow Removal & Ice Control Equipment

Snow equipment assigned to the Auburn Maintenance Station:

Support vehicles – 10	Plow/sanders –1	Motor graders – 0
Plows – 1	Loaders – 2	Rotary plows – 0

6.3.2 Whitmore Maintenance Station

The Whitmore Maintenance Station is located along Interstate 80 near Blue Canyon at an elevation of nearly 5,000-ft. The Whitmore crew is responsible for the snow removal and manned chain control operations for the mid-elevation of the Western Slope of I-80. A low elevation storm can have the Whitmore personnel covering from Applegate, at an elevation of 1900-ft, to the Junction of State Route 20 and I-80, at 5600-ft. The size of the crew at Whitmore ranges in conjunction with the size and elevation of each storm. Up to 50 workers are needed to fight a low elevation storm with large accumulations of snow. In addition to the maintenance station, during the winter months there is a 50-bed dormitory and 24 hour, 7 days a week kitchen for housing and feeding snow removal personnel.

6.3.2a Personnel/Staffing

The maintenance station is home to a road crew, shop mechanics and kitchen staff. During the winter months these are the number of employees on duty:

Regular shifts – 29 Average storm shifts – 32 Max storm shifts – 64

6.3.2b Facilities

The Whitmore facility includes an equipment barn that also houses an equipment shop, along with a 50-bed dormitory and 24 hour, 7 days a week kitchen for housing and feeding snow removal personnel. The facility includes covered parking, a 4,000 ft. warehouse, and separate sand and salt storage bunkers. A concrete indoor wash rack is also available.

6.3.2c Communications

The Kingvale Snow Communications Center (KSCC), located at the Kingvale Maintenance Station, coordinates all snow operations along the I-80 corridor and the secondary snow routes within the Sutter/Sierra Region. During the periods when the KSCC is not in operation, the Regional Transportation Management Center (RTMC) assumes their responsibilities.

6.3.2d Snow Removal & Ice Control Equipment

Snow equipment assigned to the Whitmore Maintenance Station:

Support vehicles – 8	Motor graders – 5	Loaders - 2
Plows – 8	Rotary plows – 4	TMT truck - 1
Plow/sanders – 6	Tow trucks – 1	

6.3.3 Kingvale Maintenance Station

The Kingvale Maintenance Station is situated along Interstate 80 west of the Donner Summit at an elevation of 6,200-ft. Kingvale is the largest maintenance station in the District and is primarily responsible for snow, ice, and chain control operations on a 20-mile stretch of I-80 between Yuba Gap and the Donner Lake Interchange west of Truckee. Kingvale utilizes up to 110 employees during major storms, borrowing employees from the San Joaquin and Sacramento Valleys as well as the Bay Area to fill this need. The Kingvale Dormitory has 150 beds available and the kitchen is open 24 hours a day, 7 days a week to feed and house the work force. The maintenance crew works a 24-hour, 7 day a week shift starting in November and ending in April. This schedule may vary depending on the weather.

6.3.3a Personnel/Staffing

The maintenance station is home to a road crew, shop mechanics and kitchen staff. During the winter months these are the number of employees on duty:

Regular shifts – 33 Average storm shifts – 56 Max storm shifts – 90

6.3.3b Facilities

The Kingvale facility includes an equipment barn that houses an equipment shop, along with a 150-bed dormitory and 24 hour, 7 days a week kitchen for housing and feeding snow removal personnel. The facility includes covered parking, over 5,000 ft. of materials storage space, sand and salt storage bunkers, and a separate house/resident engineer office.

6.3.3c Communications

The Kingvale Snow Communications Center (KSCC), located at the Kingvale Maintenance Station, coordinates all snow operations along the I-80 corridor and the secondary snow routes within the Sutter/Sierra Region. During the periods when the KSCC is not in operation, the Regional Transportation Management Center (RTMC) assumes their responsibilities.

6.3.3d Snow Removal & Ice Control Equipment

Snow equipment assigned to the Kingvale Maintenance Station:

Support vehicles – 12	Loaders – 3	Tow truck - 1
Plows – 4	Motor graders – 11	Fuel truck - 1
Plow/sanders – 10	Rotary plows – 9	TMT truck – 1

6.3.4 Truckee East/West Maintenance Station

The Truckee Maintenance Station is located in the City of Truckee adjacent to Interstate 80 at an elevation of 5800-ft. This station is home to 2 crews, the Truckee East/West crew and the Truckee North/South Crew. The East/West crew works exclusively on Interstate 80 and is responsible for snow removal East of Donner Pass. This area encompasses a 24-mile stretch of I-80 from the Donner Lake Interchange to the Nevada State Line. This crew also has the responsibility for the chain control and truck screening operations for West Bound Interstate 80. The crew activates a 24 hours, 7 days a week winter schedule starting in November and ending in April. This schedule may vary depending on the weather.

6.3.4a Personnel/Staffing

This facility is home to a maintenance crew and a mechanic's sub-shop.
During the winter months these are the number of employees on duty:

Regular shifts – 30 Average storm shifts – 38 Max storm shifts – 68

6.3.4b Facilities

The Truckee East/West facility includes an equipment barn with a crew room, office space, separate sand and salt storage bunkers, equipment sub-shop, uncovered wash rack/w/concrete pad, and separate house (office space). The facility also includes two warehouse buildings (over 5,000 ft.).

6.3.4c Communications

The Kingvale Snow Communications Center (KSCC), located at the Kingvale Maintenance Station, coordinates all snow operations along the I-80 corridor and the secondary snow routes within the Sutter/Sierra Region. During the periods when the KSCC is not in operation, the Regional Transportation Management Center (RTMC) assumes their responsibilities.

6.3.4d Snow Removal & Ice Control Equipment

Snow Equipment assigned to the Truckee East/West Maintenance Station:

Support vehicles – 9	Plow/sanders –8	Motor graders – 6
Plows – 5	Loaders – 2	Rotary plows – 3

6.4 Gold Country Maintenance Area

The Gold Country Maintenance Area is responsible for snow removal operations on all secondary routes within the Sutter/Sierra Region. The Gold Country Area snow removal operations are performed out of five different maintenance stations with the Area Superintendent's office located at the Truckee Maintenance Station.

6.4.1 Truckee North/South Maintenance Station

The Truckee Maintenance Station is located in the City of Truckee adjacent to Interstate 80 at an elevation of 5800-ft. This station is home to two crews, the Truckee East/West crew and the Truckee North/South Crew. The North/South crew is responsible for snow and ice operations on segments of State Routes 89 and 267 that run north and south from Truckee. These routes range in elevations from 5800-ft to 7179-ft. The crew activates a 24 hours – 7 days a week winter schedule, starting in November and ending in April.

6.4.1a Personnel/Staffing

This facility is home to a maintenance crew and mechanics sub-shop.
During the winter months these are the number of employees on duty:

Regular shifts – 22 Average storm shifts – 22 Max storm shifts – 28

6.4.1b Facilities

The Truckee North/South facility includes an equipment barn with a crew room, office space, separate sand and salt storage bunkers, equipment sub-shop, uncovered wash rack/w/concrete pad, separate house (office space) located on the facility, and two warehouse buildings (over 5,000 ft.).

6.4.1c Communications

The Kingvale Snow Communications Center (KSCC), located at the Kingvale Maintenance Station, coordinates all snow operations along the I-80 corridor and the secondary snow routes within the Sutter/Sierra Region. During the periods when the KSCC is not in operation, the Regional Transportation Management Center (RTMC) assumes their responsibilities

6.4.1d Snow Removal & Ice Control Equipment

Snow equipment assigned to the Truckee North/South Maintenance Station:

Support vehicles – 5	Plow/sanders – 5	Motor graders – 3
Plows – 3	Loaders – 1	Rotary plows – 2

6.4.2 Tahoe City Maintenance Station

The Tahoe City Maintenance Station is located on State Route 89 in Tahoe City, on the North Shore of Lake Tahoe at an elevation of 6230 ft. Tahoe City Maintenance is responsible for snow removal operations along portions of State Routes 28 and 89 that parallel the North and West shores of Lake Tahoe. The Tahoe City crew is also responsible for a portion of State Route 89 between Tahoe City and Squaw Valley. The crew monitors this section's avalanche activity in the proximity of Squaw Valley. This crew works on a 24 hours – 7 days a week winter schedule, starting in November and ending in April. This schedule may vary depending on the weather.

6.4.2a Personnel/Staffing

This facility is home to a maintenance crew and a mechanic's sub-shop.
During the winter months these are the number of employees on duty:

Regular shifts – 22 Average storm shifts – 22 Max storm shifts – 26

6.4.2b Facilities

The Tahoe City facility includes an equipment barn with a crew room, office space, separate sand and salt storage bunkers, equipment sub-shop, and a wash rack in equipment barn. A house next to facility is used for a resident engineer and construction staff.

6.4.2c Communications

The Kingvale Snow Communications Center (KSCC), located at the Kingvale Maintenance Station, coordinates all snow operations along the I-80 corridor and the secondary snow routes within the Sutter/Sierra Region. During the periods when the KSCC is not in operation, the Regional Transportation Management Center (RTMC) assumes their responsibilities

6.4.2d Snow Removal & Ice Control Equipment

Snow Equipment assigned to the Tahoe City Maintenance Station:

Support vehicles – 3	Plow/sanders – 6	Motor graders – 3
Plows – 3	Loaders – 2	Rotary plows – 2

6.4.3 Sierraville Maintenance Station

The Sierraville Maintenance Station is situated along State Highway 89 in Sierra Valley, approximately 25 miles North of Truckee at an elevation of 4900-ft. This station is responsible for snow operations on segments of State Routes 89 & 49. The elevations of these routes range from 4900 to 6700-ft. The crew activates a 24 hours – 7 days a week winter schedule, starting in November and ending in April. This schedule may vary depending on the weather.

6.4.3a Personnel/Staffing

This facility is home to a maintenance crew and a mechanic's sub-shop.
During the winter months these are the number of employees on duty:

Regular shifts: 14 Average storm shifts – 14 Max storm shifts – 14

6.4.3b Facilities

The Sierraville Station includes an equipment barn, crew room, office, equipment shop, covered indoor wash rack, and sand storage bunker.

6.4.3c Communications

The Kingvale Snow Communications Center (KSCC), located at the Kingvale Maintenance Station, coordinates all snow operations along the I-80 corridor and the secondary snow routes within the Sutter/Sierra Region. During the periods when the KSCC is not in operation, the Regional Transportation Management Center (RTMC) assumes their responsibilities.

6.4.3d Snow Removal & Ice Control Equipment

Snow equipment assigned to the Sierraville Maintenance Station:

Support vehicles – 5	Plow/sanders – 3	Motor graders – 1
Plows – 2	Loaders – 1	Rotary plows – 2

6.4.4 Downieville Maintenance Station

The Downieville Maintenance Station is located along State Highway 49, 2.5 miles North of the town of Downieville, at an elevation of 3000-ft. The Downieville Maintenance crew is responsible for snow and ice control work along 50 miles of State Route 49, ranging in elevations from 3000 to 6700-ft. In addition, this crew monitors for mud and rockslide activities in their area. The crew activates a 24 hours – 7 days a week winter schedule, starting in November and ending in April. This schedule may vary depending on the weather.

6.4.4a Personnel/Staffing

This facility is home to a maintenance crew and an in-barn mechanic's sub-shop. During the winter months these are the number of employees on duty:

Regular shifts – 14 Average storm shifts – 14 Max storm shifts – 14

6.4.4b Facilities

The Downieville Station includes an equipment barn, crew room, office, equipment shop, covered indoor wash rack, warehouse space, and sand and salt bunkers.

6.4.4c Communications

The Kingvale Snow Communications Center (KSCC), located at the Kingvale Maintenance Station, coordinates all snow operations along the I-80 corridor and the secondary snow routes within the Sutter/Sierra Region. During the periods when the KSCC is not in operation, the Regional Transportation Management Center (RTMC) assumes their responsibilities.

6.4.4d Snow Removal & Ice Control Equipment

Snow equipment assigned to the Downieville Maintenance Station:

Support vehicles – 3	Plow/sanders – 3	Motor graders – 1
Plows – 3	Loaders – 2	Rotary plows – 1

6.4.5 Nevada City Maintenance Station

The Nevada City Maintenance Station is situated along State Highway 20/49 at an elevation of 2700-ft in the City of Nevada City. The Nevada City Crew is responsible for snow and ice operations on portions of State Routes 49, 20 and 174. In addition to snow and ice, this area is also monitored for rock and mud slides. This crew activates a 24 hours – 7 days a week winter schedule, starting in November and ending in April. This schedule may vary depending on the weather.

6.4.5a Personnel/Staffing

This facility is home to a maintenance crew, landscape crew and a mechanic's sub-shop. The facility also houses the Sutter Sierra Region Office. During the winter months these are the number of employees on duty:

Regular shifts – 16 Average storm shifts – 16 Max storm shifts – 28

6.4.5b Facilities

The Nevada City facility includes an equipment barn, crew room, office, separate equipment shop, covered indoor wash rack, warehouse space, and sand and salt bunkers. It is also home to the Region Office.

6.4.5c Communications

The Kingvale Snow Communications Center (KSCC), located at the Kingvale Maintenance Station, coordinates all snow operations along the I-80 corridor and the secondary snow routes within the Sutter/Sierra Region. During the periods when the KSCC is not in operation, the Regional Transportation Management Center (RTMC) assumes their responsibilities.

6.4.4d Snow Removal & Ice Control Equipment

Snow equipment assigned to the Nevada City Maintenance Station:

Support vehicles – 7	Plow/sanders – 7	Motor graders – 2
Plows – 1	Loaders – 2	Rotary plows – 2

7.0 SUNRISE REGION

7.1 Overview

Sunrise Region Overview

The Sunrise Region consists of four maintenance areas. One of these areas, South Lake Tahoe Area, has the primary snow removal responsibility for the region. The South Lake Tahoe Area is responsible for US-50 corridor. The remaining areas in the region support the snow stations by supplying resources during storm events.
The amount of resources sent by the non snow areas to assist with snow removal operations is determined by the prediction of both the size of the storm event and the lowest elevation that snow is expected to fall. A large snowstorm that falls at a low elevation requires the services of approximately 110 employees.

West Area consists of Woodland, West Sacramento, Esparto, Northgate, Northgate L/S, Stormwater, and the Sacramento Fence and Guard Rail crews.
Central Area consists of Sunrise Maintenance, Sunrise Landscape, Sunrise Spray, Roseville, Elk Grove, and Elk Grove L/S crews.
Special Crews West consists of Sunrise Bridge, Sacramento Electric, Auburn Electric, East Electric, and Sacramento Electric Special crews.
South Lake Tahoe Area consists of the South Lake Tahoe, Kyburz and Placerville crews. This area has the responsibility for all of the snow removal operations in this region.

7.2 Sunrise Region Route Priorities

The following is a prioritized list of the snow routes in the region, with the number 1 being the highest priority. In the event that reductions in snow removal services may become necessary, the lower priority routes will receive the reductions first in an effort to maintain the service on the higher priority routes.

1. US-50
2. SR 89 South of Meyers
3. SR 89 North of South Lake Tahoe
4. SR 49 North of Placerville
5. SR 193 North of Placerville
6. SR 49 South of Placerville
7. SR153 at Coloma

7.3 South Lake Tahoe Maintenance Area

The South Lake Tahoe snow removal operation is responsible for clearing a 56 mile section of US-50, from Placerville to the California/Nevada State Line. There are approximately 30 permanent employees assigned to the South Lake Tahoe Area. During major storms, this number increases to over 110 workers, which include temporary, intermittent, and borrowed employees from other Caltrans Districts. The South Lake Tahoe Area snow removal effort is based out of three Caltrans Maintenance Stations – Placerville, Kyburz, and South Lake Tahoe.

7.3.1 Placerville Maintenance Station

The Placerville Maintenance Station is situated along U.S. Highway 50 in Placerville at an elevation of 2,000-ft. This station is primarily responsible for low-elevation snow and ice operations on a 40-mile stretch of U.S. Highway 50, from El Dorado Hills to Riverton.

7.3.1a Personnel/Staffing

This facility is home to a maintenance crew and a mechanic's sub-shop.
During the winter months these are the number of employees on duty:

Regular shifts – 16 Average storm shifts – 26 Max storm shifts – 46

7.3.1b Facilities

The Placerville facility includes an equipment barn that houses an equipment shop and mechanic, along with a separate office/crew room.

7.3.1c Communications

The Regional Transportation Management Center (RTMC) is located in Rancho Cordova. The RTMC coordinates all snow operations along the Highway 50 Corridor as well as all of the other snow affected routes in Eldorado County. With a staff of seven dispatchers and a supervisor, the RTMC monitors all communications in the mountain areas of the Sunrise Region.

7.3.1d Snow Removal & Ice Control Equipment

Snow equipment assigned to the Placerville Maintenance Station:

Support vehicles – 12	Plow/sanders – 6	Motor graders – 2
Plows – 3	Loaders – 3	Rotary plows – 0

7.3.2 Kyburz Maintenance Station

The Kyburz Maintenance Station is situated along U.S. Highway 50 in Kyburz at an elevation of 4,100-ft. This station is responsible for mid-elevation snow, ice, and chain control operations, on a 20-mile stretch of U.S. Highway 50 from Riverton to Twin Bridges, on the western slope of the Echo Summit. In addition to snow and ice, this area is also patrolled for rock and mudslide activity. Elevations in this area range from 2,000-ft to 6,000-ft. During Winter Operations, the Kyburz crew works in coordination with the Placerville Maintenance crew in an effort to streamline operations by sharing resources.

7.3.2a Personnel/Staffing

This facility is home to a maintenance crew and a mechanic's sub-shop.
During the winter months these are the number of employees on duty:

Regular shifts – 16 Average storm shifts – 24 Max storm shifts - 24

7.3.2b Facilities

The Kyburz facility includes an equipment barn, crew room, office, sand and salt storage bunkers, equipment shop, and indoor wash rack. A house next to facility is used for a resident engineer (construction).

7.3.2c Communications

The Regional Transportation Management Center (RTMC) is located in Rancho Cordova. The RTMC coordinates all snow operations along the Highway 50 Corridor as well as all of the other snow affected routes in Eldorado County. With a staff of seven dispatchers and a supervisor, the RTMC monitors all communications in the mountain areas of the Sunrise Region. The dispatchers coordinate with traffic technicians who control the many Changeable Message Signs (CMS) and Highway Advisory Radios (HAR) that advise motorists of the latest traffic conditions on Highway 50.

7.3.2d Snow Removal & Ice Control Equipment

Snow equipment assigned to the Kyburz Maintenance Station:

Support vehicles – 7	Plow/sanders – 4	Motor graders – 2
Plows – 3	Loaders – 2	Rotary plows – 2

7.3.3 South Lake Tahoe Maintenance Station

The South Lake Tahoe Maintenance Station is situated near the junctions of State Highways 50 and 89 in Meyers, just west and south of Lake Tahoe, at an elevation of 6,400-ft. This crew is responsible for snow and ice operations on State Highway 89 and a 20-mile stretch of U.S. Highway 50 from Twin Bridges to the Nevada state line. This section ranges in elevation from 6,000-ft to 7,300-ft. A five-mile portion of US-50 falls within the City of South Lake Tahoe. All cumulative snow that falls within this area is plowed to the center of the highway, loaded into trucks, and hauled to an approved snow storage site. The South Lake Tahoe Maintenance crew is also responsible for the snow and ice operations on State Highway 89 from the Alpine/El Dorado county line to Emerald Bay. In addition, this crew performs avalanche control work on Highway 50 at the Echo Summit, when conditions dictate. The station has a dormitory/kitchen, which operates 16 hours a day, to house and feed the snow removal crew.

7.3.3a Personnel/Staffing

The maintenance station is home to a maintenance crew, shop mechanics and kitchen staff. During the winter months these are the number of employees on duty:

Regular shifts – 28 Average storm shifts – 40 Max storm shifts - 48

7.3.3b Facilities

The South Lake Tahoe facility includes an equipment barn, equipment sub-shop, along with a 50-bed dormitory/kitchen, operating 16 hours a day for housing and feeding snow removal personnel. There are separate sand and salt storage bunkers.

7.3.3c Communications

The Regional Transportation Management Center (RTMC) is located in Rancho Cordova. The RTMC coordinates all snow operations along the Highway 50 Corridor as well as all of the other snow affected routes in Eldorado County. With a staff of seven dispatchers and a supervisor, the RTMC monitors all communications in the mountain areas of the Sunrise Region. The dispatchers coordinate with traffic technicians who control the many Changeable Message Signs (CMS) and Highway Advisory Radios (HAR) that advise motorists of the latest traffic conditions on Highway 50.

7.3.3d Snow Removal & Ice Control Equipment

Snow equipment assigned to the South Lake Tahoe Maintenance Station:

Support vehicles – 16	Plow/sanders – 9	Motor graders – 6
Plows – 3	Loaders – 4	Rotary plows – 6

8.0 Division of Equipment

The Division of Equipment (DOE) begins preparation of snow operation equipment in July each year to ensure that the equipment is ready for winter use by mid October. Winter operations preparation includes the annual inspection of the snow removal equipment and installation of road sanding bodies on snow plows. In addition, preparation includes replacing defective parts including wear parts such as snow blades. The local request process (LR) is utilized for studded snow tires.

Minor repairs are completed in the field. Extensive equipment repairs are performed in the main or sub shops. Shop transports are available to haul equipment for repairs and body changes.

DOE adds additional staffing for winter operations in the form of permanent intermittent (PI) employees each year in classifications of Heavy Equipment Mechanic (HEM) and Equipment Material Specialist (EMS). Workload backlogs are mitigated using overtime and PI employees.

9.0 Traffic Operations

The District 3 Regional Transportation Management Center (RTMC) located in Rancho Cordova is one of three RTMC facilities that operates year round, 24-hours a day, 7-days a week, collecting and disseminating transportation information to reduce congestion, and effectively manage the transportation system. RTMC operations personnel monitor traffic flow, communicate traffic conditions with the motoring public, and coordinate traffic management during emergencies or planned lane closures, dispatching maintenance personnel as necessary. During the winter months, typically, November through April, the Kingvale Snow Communications Center (KSCC) operates as a Satellite Operations Center and performs the basic functions of the Regional TMC for Interstate 80, the North Tahoe Basin and the secondary snow routes within the Sutter Sierra Region. RTMC and KSCC personnel dispatch crews from 13 maintenance station facilities located in snow areas to effectively perform timely snow removal operations. The RTMC is responsible for US 50 and all other routes within the District. RTMC works closely with KSCC personnel and CHP to provide the public with the following benefits:

- Reduced congestions
- Improved safety
- Enhanced mobility of travelers
- Reduced response time to incidents
- Reduced use of energy
- Increased efficiency of the transportation infrastructure

Tools available to the Operations personnel include the following field elements:

Closed Circuit Television (CCTV) used to monitor and identify freeway incidents and conditions. The cameras sites are available for the public to view roadway conditions on-line so they can make informed travel decisions.

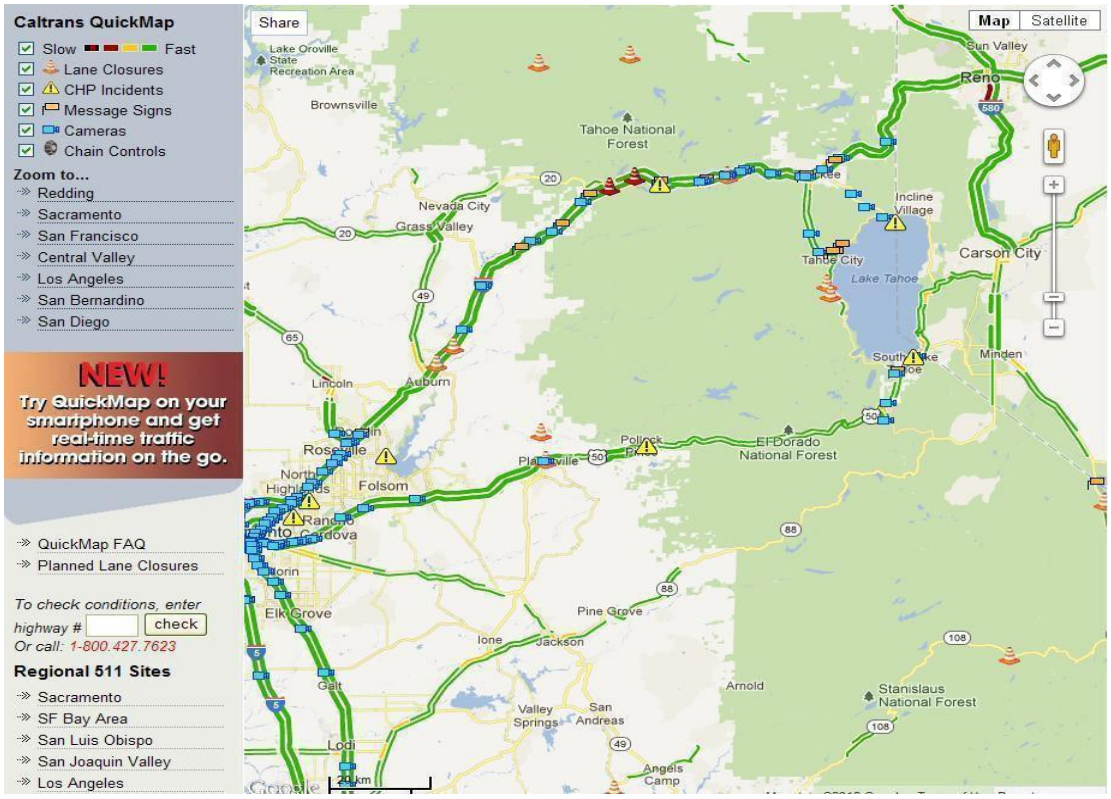
Changeable Message Signs (CMS) Changeable message signs are located at key points on the highway system to provide real time traffic information to motorists.

Highway Advisory Radio (HAR) HAR is a short-range broadcast radio system with transmitters located within the freeway right-of-way. HAR is used to provide detailed information on freeway conditions to the motorist.

Chain Control campers and personnel are provided by each snow area maintenance station.

Maintenance Zone Enhanced Enforcement Program (MAZEEP program contracts with the CHP to increase work zone safety such as patrol units working within Caltrans work zones or chain control locations.

The California Highway Information Network (CHIN) disseminates the information to the public and government agencies via the internet and the telephone system 1-800-427-ROAD. The information in the CHIN is given to Caltrans Headquarters (HQ) by the District TMC's including the RTMC and KSCC. Caltrans Headquarters manages and maintains this information system. In the future, this information will be input by the District TMC's into the TMCAL (Transportation Management Center Activity Logging) system and accessed by the public over the internet using the California QuickMap webpage.



The California QuickMap webpage uses a Google base map which presents chain controls, traffic speeds, lane and road closures, incidents on the roadways, Changeable Message Signs (CMS) information, and Closed Circuit Camera (CCTV) sites for the highway. The information is presented as selectable layers that can be turned on or off as the user wishes. In addition, there are links to the different 511 organizations throughout the State that provide more comprehensive traveler, commuter and multimodal options within their respective area.

APPENDIX A:

DEPARTMENT OF

TRANSPORTATION

AND CALIFORNIA

HIGHWAY PATROL

Joint Operational Policy

Statement

TRAFFIC MANAGEMENT AND CONTROL ON STATE HIGHWAYS

GENERAL

The California Department of Transportation (Caltrans) and the California Highway Patrol (CHP) share the responsibility for operating the state highway system. Both Departments are dedicated to providing mobility and the highest level of safety, service, and security to the public. This is accomplished, in part, through effective traffic control, incident management, and quick clearance of incidents.

California Vehicle Code (CVC) Section 2410 gives CHP the authority to direct traffic in accordance with law during an emergency. Having this command designation, the CHP is responsible for not only the incident scene, but also the traffic impacts of the activities of other responding agencies. The CHP and Caltrans agree that safe, competent, and quick clearance of incidents is accomplished through communication, training, and teamwork. To that end, both Departments strive to increase effectiveness during an incident or event. The following are specific aspects of traffic management and control.

TRAFFIC CONTROL

Representatives from each Department will work together employing appropriate response measures and methods of traffic control until normal traffic flow is restored. Traffic control may be provided by personnel, signs, or other traffic control devices. The method used is based upon individual situations and the objectives to be

accomplished. The CHP is responsible for directing traffic in the short-term until the situation stabilizes, or until the necessary long-term traffic control measures are put into effect by Caltrans.

Traffic control by CHP officers is commonly referred to as "directing traffic" and is achieved through the use of hand signals, flare patterns, cones, and/or other techniques. This effort is used to handle traffic when the situation is temporary or short- term. Examples include traffic collisions, unusually heavy traffic flow, minor emergency repairs, or any highway disruption where traffic flow will be directed temporarily until the condition is relieved or traffic signs, barriers, and/or other control devices can be put to use.

Caltrans or its contractors also direct and control traffic by using flaggers and a variety of other traffic control devices when a state highway is closed or restricted for an incident, planned lane closure, or special event. It is the responsibility of Caltrans to use traffic control devices when the situation is deemed to be permanent or long-term. Traffic control devices include, but are not limited to, cones, barricades, fixed and portable changeable message signs, ramp meters, and highway advisory radios.

In any instance requiring traffic control because of a critical or emergency condition, the first representative of either department arriving on the scene should take necessary action to protect the traveling public.

TRAFFIC COLLISIONS

The CHP has the responsibility for investigating traffic collisions to gather factual evidence for due process and statistical purposes. To assist CHP in performing this duty, authority is granted to restrict the presence of persons not authorized to be in the investigation area. This authority should not be construed as to restrict Caltrans personnel from carrying out their required duties, so long as it does not interfere with the collection of evidence, preservation of life, property, or administering of emergency medical care.

The CHP should notify Caltrans immediately when there are significant traffic impacts as a result of a traffic collision, or when there is damage to the highway facility. Caltrans personnel are responsible for the repair of the damage and restoration of the facility to normal operating conditions.

Copies of collision reports on state highways are provided by CHP to Caltrans for consideration of safety and operational betterments, repair, maintenance, recovery of damage costs from responsible parties, and statistical gathering. When frequent collision locations are recognized, Caltrans and the CHP should communicate to determine potential mitigations.

HIGHWAY BLOCKAGE (Other than traffic collisions)

Incidents of unusual nature that affect the use of the highway system can normally be categorized as short-term or long-term incidents.

A long-term incident would be one requiring prolonged closure of one or more highway lanes pending the completion of repair work to restore traffic. A short-term incident would be one requiring temporary closure of one or more highway lanes where traffic control measures by Caltrans may not be necessary. In both cases, any immediate measures needed to ensure the safe movement of traffic is the joint responsibility of CHP and Caltrans.

SPILLAGE OF COMMODITIES (Non-hazardous material)

Section 23113(a) of the CVC says that the person who causes a material to be deposited (spilled) on a highway shall immediately remove the material or cause the material to be removed. If the spiller cannot comply with the above on state highways, the CHP will notify the spiller and authorize Caltrans to remove the material at the spiller's expense. The CHP will investigate the cause of spills on the highway under its jurisdiction and provide Caltrans with copies of any relevant reports.

HAZARDOUS WASTE SPILL CLEANUP

The CHP issues hazardous material transportation permits on state highways.

Section 2454 of the CVC states it is the responsibility of the CHP as incident commander at the site of a highway hazardous substance spill to coordinate operations at the scene. This section applies to spills on highways under CHP jurisdiction.

Caltrans contracts with private cleanup companies to provide spill cleanup services on highwa ys within its jurisdiction if the spiller cannot comply with the law to remove the material.

When a hazardous waste spill comes to the attention of Caltrans or the CHP, the Department first learning of the incident shall notify the other of the spill location, type of material (if known), and approximate quantities of material spilled.

The CHP will respond and initiate the Incident Command System, request any mutual assistance that may be needed, and make legally-required notifications. The CHP should include Caltrans in the established command post operations. Long-term traffic control will be provided by Caltrans.

The CHP will attempt to identify the substance as a hazardous waste classified by U.S. Department of Transportation Title 49 Regulations, California Vehicle Code, Health

and Safety Code, or the State Department of Toxic Substances Control, by shipping documents, placards, or other means. The CHP will then update Caltrans with any new information. Caltrans will either clean up the spill (if within their scope) or call one of their contractors (a list of cleanup contractors is shown on page 8 and hazardous waste sites are shown on page 9 and are available in every Caltrans dispatch center). Caltrans will provide personnel trained at the First Responder Operations level to work with the cleanup contractor.

In the event that Caltrans cannot be reached after a reasonable amount of effort (after the CHP dispatcher has attempted to contact Caltrans dispatch or the Transportation Management Center (TMC), and has called three names from or exhausted the approved Caltrans call-out list, whichever occurs first), the CHP incident commander will call the nearest Caltrans' cleanup contractor from the approved list directly to handle the spill and will then notify Caltrans of the name of the contractor used and any pertinent data gathered in the field. A map showing Caltrans district boundaries is included as an aid in locating Caltrans contractors (page 7). Contractors who are not on the approved list shall not be called unless an extreme situation exists (i.e., life-threatening, serious injury, significant environmental or property damage), and pre-approved contractors are not available.

When a spill is considered life-threatening in the judgment of the incident commander (CHP), it may become appropriate for the CHP to call a cleanup contractor directly to ensure immediate identification, containment, and timely remediation. As used in the foregoing, the term "life threatening" means that a hazardous material/waste has been released or has the potential to be released and would endanger life or cause significant injury unless control or cleanup measures are taken immediately.

Unless Caltrans is the spiller, Caltrans will not be responsible for cleanup of hazardous waste spills that are off the Caltrans right-of-way. Caltrans will accept financial responsibility for cleanup work initiated by the CHP in accordance with this agreement, provided that the contractor called is on the Caltrans approved list, or was approved in advance by Caltrans for the specific incident. Work paid for by Caltrans is limited to that performed within the state highway right-of-way limits. Caltrans will not be responsible for waste that flows or drifts beyond the right-of-way line.

For all on-highway hazardous waste incidents, the law enforcement agency with traffic jurisdiction shall notify the Office of Emergency Services (OES) and obtain a control number for that incident.

Caltrans will provide the CHP Special Projects Section with a new list of approved contractors each time the list contained herein is updated.

CALTRANS CALL-OUT LISTS

Caltrans will prepare and maintain lists of staff available for contact outside normal working hours. The lists of off-duty supervisory Caltrans incident response personnel will be provided to Caltrans 24-hour dispatch centers, where available, and to appropriate CHP communication centers. Caltrans supervisory personnel, or designated alternates named on the lists, shall have the authority to call-back and assign workers to emergency incidents.

REMOVAL OF VEHICLES FROM TRAVELED LANES (Other than injury collisions)

Caltrans personnel may move either occupied or unoccupied vehicles from a highway travel lane to the nearest available shoulder or other refuge location to keep the highway open and safe when such vehicles obstruct traffic. Before any abandoned vehicle can be stored, a peace officer must first determine that the vehicle may be lawfully removed.

RURAL COMMUNICATIONS

Not all Caltrans Districts have 24-hour dispatch capability. Those districts without 24-hour dispatch capability may be served by CHP dispatch facilities and operators. Where requested, the CHP will provide Caltrans with the following services:

1. Radio dispatch to Caltrans mobile units during other than normal business hours.

2. Timely notification to designated Caltrans personnel when a traffic collision, meeting criteria established by Caltrans, occurs on a state highway.

The foregoing does not preclude agreements between local CHP Areas and local Caltrans Districts covering specific issues of mutual concern or interest.

TRANSPORTATION MANAGEMENT CENTERS

Information on operating TMCs and the approved memorandum of understanding is found in the December 1997 TMC Master Plan.

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APPENDIX B: GLOSSARY

Anti-icer: Anti-icer is a chemical freezing point depressant used to prevent the formation of frost, snow, or ice on a road surface.

Automatic Traction Devices (ATDs): ATDs, or automatic traction devices as defined in the California Vehicle Code Section 605, are devices that can be automatically deployed by the driver of a vehicle. These devices are most commonly found on trucks and buses.

Bare Pavement: The road is clear of loose snow but may have patches of ice or snow pack that, when treated with chemicals or abrasives or a combination of these, may be negotiated safely by the average driver without the need of chains.

Chain Requirements: Chain requirement means chains or traction devices will be required when, in the judgment of the maintenance supervisor on duty, snow and ice conditions make it difficult for the average driver to control their vehicle. Chains or traction devices are defined in the California Vehicle Code Section 605, general called "chains," and are used to increase the traction of vehicle tires on snow or ice covered pavement.

Deicer: A chemical freezing point depressant such as, but not limited to, salt (sodium chloride), salt brine, CMA (calcium magnesium acetate), liquid potassium acetate, or liquid magnesium chloride. Deicers are used to melt already formed frost, snow, or ice.

Level of Service: A tool that measures the quality of operations for different roadway types, features, and controls.

Pack: A buildup of ice and/or compacted snow on the road surface.

RWIS (Road Weather Information System): An installation of weather and pavement sensors that is used to monitor conditions at a remote location. Some RWIS can use historical data previously gathered to predict local weather as a decision making tool for Maintenance and Construction operations.

Brine: Slurry mixture made of salt and water. Currently, there are 3 Brine producing machines in District 3, where 1 ton of salt produces 1,000 gallons of brine.

Storm Shift: Storm shift hours in the district vary from area to area. Most of them consisting of 0800 hrs to 2000hrs/2000 hrs to 0800 hrs, and 1200 hrs to 2400 hrs/0000 hrs to 1200 hrs.

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APPENDIX C: Equipment Qualification Program Update Memorandum

State of California
DEPARTMENT OF TRANSPORTATION

Business, Transportation, and Housing Agency

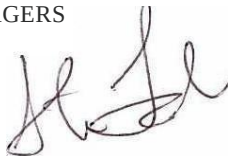
Memorandum

Flex your power.
Be energy efficient!

To: DEPUTY DISTRICT DIRECTORS
REGION MANAGERS
META COORDINATORS
EQUIPMENT MANAGERS
Maintenance

Date: October 13, 2006

From: STEVE TAKIGAWA
Chief
Division of Maintenance



Subject: Equipment Qualification Program Update

The Equipment Qualification Program was established by the Division of Maintenance in 1985 (and revised in 1996) to train and evaluate employees prior to independent operation of specialized equipment. Since 1996, there have been changes affecting the makeup and size of the fleet, staffing, licensing, recordkeeping, and Memoranda of Understanding (Levels of Equipment lists). The fleet was 8,435 units in 1996, now it's 8,887. There *have* been additions for the Storm Water program, and other specialized equipment. We have had staffing changes due to retirement, promotion, etc. The Memoranda of Understanding dictate which pieces of equipment Caltrans Equipment Operators may operate (CEO 1 and CEO 2). We now use the Staff Central programs Learning Management System, and Certification and Licensing, to keep records of training and Certificates and Licenses required for operation of specialized equipment. When information is properly entered, these programs allow statewide access for management to current employee records.

The purpose of this memorandum is to provide current direction on the Equipment Qualification Program and related activities.

The goals of the program are as follows:

- Ensuring an adequate supply of safe and proficient operators
- Reduction in downtime and repair costs to the fleet
- Compliance with law, code, policy and regulation

DEPUTY DISTRICT DIRECTORS, eta!
October 13, 2000
Page 2

The legal authority for this program exists in the California Labor Code (Cal-OSHA . Section 6300, the California Administrative Code (Section 599.817(b)), and the California Code of Regulations, Sub-chapter 7 General Industry Safety Orders Section 3203. These explain the mandate(s) regarding training in general, and specifically for equipment safety training.

This memorandum supersedes all previous direction regarding equipment qualification.

Qualification Program Roles and Responsibilities are attached to this document and · provide an overview of the Program for ready reference. The Division of Maintenance web pages contain Qualifier and Trainer Manuals for each piece of equipment in the program, which are continually revised and updated. You can find the latest Qualifier and Trainer Manuals at http://onramp.dot.ca.gov/hg/ maintlmeeo/ meta/manuals.htm.

The Maintenance Equipment Training Academy (META) at McClellan, CA, is responsible for the administration of the Equipment Qualification Program. Questions should be directed to Nate Cradle, Chief, Maintenance Equipment and Training at (916) 643-8871.

Equipment Qualification Program 2006

District management and supervision play a vital role in determining the need for Qualifiers, Trainers, and Qualified Operators. These needs are based on such factors as:

- The size and diversity of the active fleet
- Geographic dispersion of the fleet
- Topography and elevation of the district
- Type and amount of lane miles
- Seasonal and weather-related demands

Therefore, districts should continually evaluate the balance between workload, staffing levels and fleet makeup and determine what they feel is a reasonable number of Qualifiers, Trainers, and Qualified Operators. Experience suggests that more Trainers than Qualifiers are required, at least a 2-to-1 ratio. The goal is to provide enough qualified operators for maximum production and flexibility, while allowing operators enough "stick time" to retain a high level of proficiency.

The challenge faced by first-line supervisors is to provide adequate training to ensure a succession of qualified operators is available through time, while maintaining aggressive production targets. As the workforce transitions from older, more experienced Workers and Operators into a younger, less equipment• savvy one, this problem will persist.

Chapter 4 of Volume One of the Maintenance Manual defines the responsibilities for Division of Maintenance personnel regarding equipment care and the training of employees who will operate and maintain it. To facilitate the Qualification Program's role in meeting these responsibilities, periodic internal reviews should be conducted by:

- Area Superintendents (part of the weekly operations/safety reviews)
- Region Managers (periodic reviews of Area Superintendents)
- District Equipment Managers (periodic field reviews)

Periodic meetings between Qualifiers, Trainers, and District Equipment Management and/or META Coordinators should be held to ensure uniformity of administration of the program and to identify opportunities for additional Equipment Qualification modules to be developed. Equipment must exist in the fleet in sufficient numbers to warrant the creation of an additional module for application across the entire state. Training on specialized equipment occurring in limited numbers should occur on-the-job, or if rental equipment, should be performed by the vendor and be included with the rental fee. Operators in these instances should be selected from the ranks of those already qualified on similar type equipment, if possible (e.g. a Badger operator trained for an excavator).

Program Roles Overview:
(Note: In some districts, the individual roles described below may be performed by the same individual, or shared among individuals.)

Equipment Qualification Program 2006

Qualifier's Responsibilities:

- Except where chartered by META, only Supervisors and Superintendents should be Qualifiers, and have a good working knowledge of the equipment on which they will be performing proficiency testing. For Truck/Trailer/Loader/Packer Qualifiers (TILPQ), a Class 'A' license is required. In the event a road test must be halted for safety and/or performance reasons, the Qualifier must legally be able to drive a combination of vehicles requiring an 'A' license back to a yard or training site.
- Must stay current with equipment preventative maintenance policy and employee licensing requirements, as well as the Levels of Equipment list. Contact District Equipment Manager for latest Levels of Equipment lists.
- Ensure candidate is tested on same equipment they trained on.
- Communicate to candidate, supervisor, and META Trainer any improvement to skills needed, if necessary.
- Maintain records, accurately complete EQP forms and distribute correctly for timely C&L data entry.
- Visit META web pages for latest versions of Equipment Qualification Program Qualification manuals and Study Guides (http://onramp.dot.ca.gov/hq/maint/meeo/meta/manuals.htm).

Trainer's Responsibilities:

- Stay current on the equipment for which they are Trainers, including new models as they arrive in the District fleet.
- Maintain proficient operating skills in order to demonstrate desirable techniques for candidates.
- Train candidates using the latest Study Guides from the META web pages: (http://onramp.dot.ca.gov/hq/maint/meeo/meta/manuals.htm), as well as Code of Safe Operating Practices, Operator's Manual, and Division of Equipment (DOE) Mobile Equipment Preventive Maintenance Policy.
- Verify and reinforce basic skills and knowledge.
- Prepare candidate for qualification testing, or verify that an Operator-In• Training {OIT) permit may be issued.
- Maintain records of training progress contact logs, etc., complete and submit OIT permits according to instructions.
- Provide feedback to candidate's supervisor on progress and improvement needed.

Equipment Qualification Program 2006

Supervisor's Responsibilities:

- Plans to replace qualified operators as needed by identifying other crew persons and providing OJT opportunities.
- Provide basic equipment training, including pre-operation and post-operation procedures, 8 and 40 hour service requirements, Operator's Manual or Lube Folio information, and PEMR Book.
- Ensures that candidates he/she sends for training as Trainers meet the prerequisites, i.e. Qualified Operator for that specific piece of equipment, possesses COL with no restrictions if required, etc.

District Equipment Manager's Responsibilities:

- Monitors, along with Managers and Superintendents and the META Coordinator, the level of META-trained Trainers and Qualifiers in the district, and plans with them to adjust levels as needed.
- Works to inform META Trainers and Qualifiers when new equipment enters the district pool of equipment, so that they may become familiar with it (periodic meetings among the interested parties are suggested).
- Works with vendors to arrange for training on rental equipment that is substantially different from the existing fleet.
- Helps provide equipment for META Trainer and Qualifier classes, when needed (schedules equipment, authorizes moves or rental, etc.).

District META Coordinator's Responsibilities:

- Works with Equipment Manager, Superintendents, and Maintenance Managers to provide Qualifier, Trainer, or Caltrans Equipment Operator I & II training (CEO I & II).
- Request training for Qualifiers and Trainers from META/McClellan staff, utilizing the LMS.
- Ensures that Equipment Manager, Superintendents, Supervisors and Maintenance Managers know and adhere to the prerequisites for candidates for Qualifiers and Trainers.
- In some districts, performs Certification and Licensing (C&L) code entry from Equipment Qualification Forms for CEO Is & lis.

District Regional Administrative Officer's (RAOs) Responsibilities:

- In some districts, performs Certification and Licensing (C&L) code entry from Equipment Qualification Forms for CEO Is & lis).
- Ensures that C&L entries for Equipment Qualification include date issued, Qualifier's name as issuing person, correct C&L code (see Staff Central portal for complete list), date of three-year expiration.

State of California
DEPARTMENT OF TRANSPORTATION

California State Transportation Agency

M e m o r a n d u m

Serious Drought.
Help Save Water!

To: DEPUTY DISTRICT DIRECTORS
REGION MANAGERS
META COORDINATORS
EQUIPMENT MANAGERS
Maintenance

Date: April 2, 2014

File:

From: TONY TAVARES
Chief
Division of Maintenance

Subject: **EQUIPMENT QUALIFICATION EXTENSION**

The Maintenance Equipment Training Academy (META) has reviewed the Equipment Qualification Extension process, and the 3-year extension, Equipment Qualification Extension (Form MTC-07), shall no longer be required. Once properly qualified on a piece of equipment, an employee's qualification remains in effect, with the exception of Forklift Qualification. Occupational Safety and Health Administration Standard 29 CFR 1910.178 requires employees operating forklifts shall re-qualify every 3 years. In addition to forklift re-qualification, an employee shall be re-qualified on other pieces of equipment if one of the triggering events listed below occurs:

1. Operator error caused preventable accident or equipment failure while using the selected equipment.

2. Operator receives a conviction of a moving violation in a State vehicle that requires qualification.

3. Employee has not operated the selected equipment on a regular basis and maintained operating skills sufficient to meet production needs as determined by supervision or META Instructor.

The Supervisor shall discuss the reason for re-qualification with the Superintendent, and both shall sign/approve the employee qualification certificate.

A regular rotation of qualified operators should be planned, implemented, and monitored to assure proper skills development and retention of qualified employees.

Repeated re-qualification on required equipment may be cause for disciplinary action and/or reassignment.

c: Lawrence H. Orcutt, Chief,
Division of Equipment

"Caltrans improves mobility across California"